



## **DEPARTMENT OF TRANSPORTATION**

### **Federal Aviation Administration**

#### **14 CFR Part 39**

**[Docket No. FAA-2021-0612; Project Identifier MCAI-2021-00650-R; Amendment 39-21755; AD 2021-20-17]**

**RIN 2120-AA64**

**Airworthiness Directives; Leonardo S.p.a. Helicopters**

**AGENCY:** Federal Aviation Administration (FAA), DOT.

**ACTION:** Final rule.

**SUMMARY:** The FAA is superseding emergency Airworthiness Directive (AD) 2018-23-52, which applied to all Leonardo S.p.a. Model AW169 and AW189 helicopters. AD 2018-23-52 required inspecting the nut, cotter pin, lock-wire, and hinge bracket connected to the tail rotor servo-actuator (TRA) feedback lever link, and each connection of the TRA feedback lever link, and repair if necessary. AD 2018-23-52 also required applying a paint stripe or torque seal on the nut and reporting certain information. This AD requires repetitive inspections of the TRA, repetitive inspections and checks of the tail rotor duplex bearings (TR DB), installation of an improved TRA and TR DB, repetitive installations and checks of thermal strips, replacement of the improved TR DB (life limit), and applicable corrective actions, as specified in a European Union Aviation Safety Agency (EASA) AD, which is incorporated by reference. This AD was prompted by a report of an accident of a Model AW169 helicopter, which was observed to have lost yaw control prior to the accident and a determination that certain inspections and checks of the TR DB, installation of an improved TRA and TR DB, certain other actions, and applicable corrective actions are necessary to address the unsafe condition. The FAA is issuing this AD to address the unsafe condition on these products.

**DATES:** This AD is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in this AD as of [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

**ADDRESSES:** For material incorporated by reference (IBR) in this AD, contact the EASA, Konrad-Adenauer-Ufer 3, 50668 Cologne, Germany; telephone +49 221 8999 000; email [ADs@easa.europa.eu](mailto:ADs@easa.europa.eu); Internet [www.easa.europa.eu](http://www.easa.europa.eu). You may find this material on the EASA website at <https://ad.easa.europa.eu>. You may view this material at the FAA, Office of the Regional Counsel, Southwest Region, 10101 Hillwood Pkwy., Room 6N-321, Fort Worth, TX 76177. For information on the availability of this material at the FAA, call 817-222-5110. It is also available in the AD docket on the Internet at <https://www.regulations.gov> by searching for and locating Docket No. FAA-2021-0612.

#### **Examining the AD Docket**

You may examine the AD docket on the Internet at <https://www.regulations.gov> by searching for and locating Docket No. FAA-2021-0612; or in person at Docket Operations between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this final rule, any comments received, and other information. The address for Docket Operations is U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE, Washington, DC 20590.

**FOR FURTHER INFORMATION CONTACT:** Andrea Jimenez, Aerospace Engineer, COS Program Management Section, Operational Safety Branch, Compliance & Airworthiness Division, FAA, 1600 Stewart Ave., Suite 410, Westbury, NY 11590; telephone (516) 228-7330; email [andrea.jimenez@faa.gov](mailto:andrea.jimenez@faa.gov).

## **SUPPLEMENTARY INFORMATION:**

### **Background**

The EASA, which is the Technical Agent for the Member States of the European Union, has issued EASA AD 2020-0197, dated September 10, 2020 (EASA AD 2020-0197), to correct an unsafe condition for all Leonardo S.p.A. (formerly Finmeccanica S.p.A., AgustaWestland S.p.A.) Model AW169 and AW189 helicopters.

The FAA issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 to supersede Emergency AD 2018-23-52, Product Identifier 2018-SW-093-AD, dated November 8, 2018 (Emergency AD 2018-23-52). Emergency AD 2018-23-52 applied to all Leonardo S.p.a. Model AW169 and AW189 helicopters. The NPRM published in the *Federal Register* on August 5, 2021 (86 FR 42754). The NPRM was prompted by a report of an accident of a Model AW169 helicopter, which was observed to have lost yaw control prior to the accident and a determination that certain inspections and checks of the TR DB, installation of an improved TRA and TR DB, certain other actions, and applicable corrective actions are necessary to address the unsafe condition. The NPRM proposed to require repetitive inspections of the TRA, repetitive inspections and checks of the TR DB, installation of an improved TRA and TR DB, repetitive installations and checks of thermal strips, replacement of the improved TR DB (life limit), and applicable corrective actions, as specified in an EASA AD.

The FAA is issuing this AD to address failure of the TRA feedback lever. This condition could result in loss of tail rotor control and subsequent loss of control of the helicopter. See the EASA AD 2020-0197 for additional background information.

### **Discussion of Final Airworthiness Directive**

## **Comments**

The FAA gave the public the opportunity to participate in developing this final rule. The FAA received no comments on the NPRM or on the determination of the cost to the public.

## **Conclusion**

The FAA reviewed the relevant data and determined that air safety and the public interest require adopting this final rule as proposed, except for minor editorial changes.

The FAA has determined that these minor changes:

- Are consistent with the intent that was proposed in the NPRM for addressing the unsafe condition; and
- Do not add any additional burden upon the public than was already proposed in the NPRM.

## **Related Service Information Under 1 CFR Part 51**

EASA AD 2020-0197 requires the following actions:

- Repetitive inspections of the slippage marking of the castellated nut installed on the back-end of the affected TRA.
- Repetitive inspections of the roughness and breakaway force of the affected TR DB.
- Repetitive installations of a thermal strip on the spacer next to the TR DB.
- Repetitive checks of the condition of the thermal strip and the indicated temperature.
- Repetitive inspections/checks for particles and additional roughness of the TR DB.
- Installation of an improved TRA.
- Installation of an improved TR DB.
- Repetitive replacements of the improved TR DB (life limit).

- An inspection of an affected TR DB if the thermal strip is detached, partially detached, or unreadable.
- Reporting information to the manufacturer.
- Sending parts to the manufacturer.
- Applicable corrective actions.

Corrective actions include accomplishing instructions to address the following findings: evidence of rotation of an affected TRA nut; thermal strip temperatures that exceed specified values; and any discrepancies found during the inspection of an affected TR DB. Discrepancies include roughness (meaning lack of free and easy rotation), measured breakaway force(s) outside the allowed range, any wear or other damage (including, but not limited to, broken seals), and the presence of particles.

EASA AD 2020-0197 also prohibits (re)installation of an affected TRA and an affected TR DB on a helicopter. EASA AD 2020-0197 also specifies, for certain helicopters, terminating action for the repetitive inspections of the slippage marking of the castellated nut.

This material is reasonably available because the interested parties have access to it through their normal course of business or by the means identified in the ADDRESSES section.

#### **Differences Between this AD and EASA AD 2020-0197**

EASA AD 2020-0197 requires sending parts to the manufacturer. This AD does not require that action.

EASA AD 2020-0197 specifies the earlier revisions of Leonardo S.p.A. Emergency Alert Service Bulletin (EASB) 169-148, Revision D, dated August 4, 2020;

and Leonardo S.p.A. EASB 189-237, Revision D, dated August 4, 2020; are acceptable for compliance for certain actions. This AD does not allow credit for the earlier revisions.

Where Note 1 of EASA AD 2020-0197 allows a non-cumulative tolerance of 10 percent to be applied to the compliance times for the actions to allow for synchronization of the required actions with other maintenance tasks, this AD does not allow that tolerance.

### **Interim Action**

The FAA considers this AD to be an interim action and further AD action might follow.

### **Costs of Compliance**

The FAA estimates that this AD affects 10 helicopters of U.S. registry. The FAA estimates the following costs to comply with this AD:

#### **Estimated costs for required actions**

<b>Action</b>	<b>Labor cost</b>	<b>Parts cost</b>	<b>Cost per product</b>	<b>Cost on U.S. operators</b>
Inspections and checks	Up to 9 work-hours X \$85 per hour = \$765, per inspection/check cycle	\$0	Up to \$765, per inspection/check cycle	Up to \$7,650, per inspection/check cycle
Thermal strip installation	1 work-hour X \$85 per hour = \$85, per installation cycle	\$4	\$89, per installation cycle	\$890, per installation cycle
Installation of improved TRA and TR DB	Up to 18 work-hours X \$85 per hour = \$1,530	Up to \$39,000	Up to \$40,530	Up to \$405,300
Replacement of improved TR DB	10 work-hours X \$85 per hour = \$850, per replacement cycle	\$1,500	\$2,350, per replacement cycle	\$23,500, per replacement cycle

The FAA estimates that it would take about 1 hour per product to comply with the on-condition reporting requirement in this AD. The average labor rate is \$85 per hour.

Based on these figures, the FAA estimates the cost of reporting the inspection and check results on U.S. operators to be \$85 per product.

The FAA estimates the following costs to do any necessary on-condition inspections and thermal strip installations that would be required based on the results of any required actions. The FAA has no way of determining the number of helicopters that might need these on-condition actions:

<b>Estimated costs of on-condition inspections and installations</b>		
<b>Labor cost</b>	<b>Parts cost</b>	<b>Cost per product</b>
4 work-hours X \$85 per hour = \$340	\$0	\$340

The FAA has received no definitive data that would enable the agency to provide cost estimates for the other on-condition actions specified in this AD.

#### **Paperwork Reduction Act**

A federal agency may not conduct or sponsor, and a person is not required to respond to, nor shall a person be subject to penalty for failure to comply with a collection of information subject to the requirements of the Paperwork Reduction Act unless that collection of information displays a current valid OMB control number. The control number for the collection of information required by this AD is 2120-0056. The paperwork cost associated with this AD has been detailed in the Costs of Compliance section of this document and includes time for reviewing instructions, as well as completing and reviewing the collection of information. Therefore, all reporting associated with this AD is mandatory. Comments concerning the accuracy of this burden and suggestions for reducing the burden should be directed to Information Collection Clearance Officer, Federal Aviation Administration, 10101 Hillwood Pkwy., Fort Worth, TX 76177-1524.

## **Authority for this Rulemaking**

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. Subtitle VII: Aviation Programs, describes in more detail the scope of the Agency's authority.

The FAA is issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701: General requirements. Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

## **Regulatory Findings**

This AD will not have federalism implications under Executive Order 13132. This AD will not have a substantial direct effect on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify that this AD:

- (1) Is not a "significant regulatory action" under Executive Order 12866,
- (2) Will not affect intrastate aviation in Alaska, and
- (3) Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

## **List of Subjects in 14 CFR Part 39**

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.



## **The Amendment**

Accordingly, under the authority delegated to me by the Administrator, the FAA amends 14 CFR part 39 as follows:

### **PART 39 - AIRWORTHINESS DIRECTIVES**

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

#### **§ 39.13 [Amended]**

2. The FAA amends § 39.13 by adding the following new airworthiness directive:

**2021-20-17 Leonardo S.p.a.:** Amendment 39-21755; FAA-2021-0612; Project Identifier MCAI-2021-00650-R.

#### **(a) Effective Date**

This airworthiness directive (AD) is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

#### **(b) Affected ADs**

This AD replaces Emergency AD 2018-23-52, Product Identifier 2018-SW-093-AD, dated November 8, 2018 (Emergency AD 2018-23-52).

#### **(c) Applicability**

This AD applies to all Leonardo S.p.a. Model AW169 and AW189 helicopters, certificated in any category.

#### **(d) Subject**

Joint Aircraft Service Component (JASC) Code 6400, Tail Rotor System.

#### **(e) Unsafe Condition**

This AD was prompted by a report of an accident of a Model AW169 helicopter, which was observed to have lost yaw control prior to the accident. The FAA is issuing this AD to address failure of the tail rotor servo-actuator (TRA) feedback lever. This

condition could result in loss of tail rotor control and subsequent loss of control of the helicopter.

**(f) Compliance**

Comply with this AD within the compliance times specified, unless already done.

**(g) Requirements**

Except as specified in paragraph (h) of this AD: Comply with all required actions and compliance times specified in, and in accordance with, European Union Aviation Safety Agency (EASA) AD 2020-0197, dated September 10, 2020 (EASA AD 2020-0197).

**(h) Exceptions to EASA AD 2020-0197**

(1) Where EASA AD 2020-0197 requires compliance in terms of flight hours, this AD requires using hours time-in-service.

(2) This AD does not allow the compliance time tolerance specified in Note 1 of EASA AD 2020-0197.

(3) The initial compliance time for the inspection specified in paragraph (1) of EASA AD 2020-0197 is within the compliance time specified in paragraph (1) of EASA AD 2020-0197, except for Group 1 helicopters on which the inspection identified in paragraph (1) of EASA AD 2020-0197 has not been done, the initial inspection is within 10 hours time-in-service after the effective date of this AD.

(4) The initial compliance time for the inspection specified in paragraph (2) of EASA AD 2020-0197 is within the compliance time specified in paragraph (2) of EASA AD 2020-0197, except for Group 1 and 2 helicopters on which the inspection identified in paragraph (2) of EASA AD 2020-0197 has not been done, the initial compliance time is within 50 hours time-in-service after the effective date of this AD.

(5) The initial compliance time for the installation specified in paragraph (3) of EASA AD 2020-0197 is within the compliance time specified in paragraph (3) of EASA

AD 2020-0197, except for Group 1 and 2 helicopters on which the installation identified in paragraph (3) of EASA AD 2020-0197 has not been done, the initial compliance time is within 20 hours time-in-service after the effective date of this AD.

(6) The initial compliance time for the check (inspection) specified in paragraph (4) of EASA AD 2020-0197 is within the compliance time specified in paragraph (4) of EASA AD 2020-0197, except for Group 1 and 2 helicopters on which the check (inspection) identified in paragraph (4) of EASA AD 2020-0197 has not been done, the initial compliance time is within 10 hours time-in-service after the effective date of this AD.

(7) The initial compliance time for the inspection/check specified in paragraph (5) of EASA AD 2020-0197 is within the compliance time specified in paragraph (5) of EASA AD 2020-0197 except for Group 1 and 2 helicopters on which the inspection identified in paragraph (5) of EASA AD 2020-0197 has not been done, the initial compliance time is within 10 hours time-in-service after the effective date of this AD.

(8) Where paragraphs (6), (8), (9), and (11) of EASA AD 2020-0197 specify contacting Leonardo for corrective action instructions, the corrective action instructions must be accomplished in accordance with FAA-approved procedures.

(9) Where paragraphs (9) and (10) of EASA AD 2020-0197 use the term “discrepancy,” for this AD, discrepancies include roughness (meaning lack of free and easy rotation), measured breakaway force(s) outside the allowed range specified in the service information identified in paragraphs (2) and (7) of EASA AD 2020-0197, any wear or other damage (including, but not limited to, broken seals), and the presence of particles.

(10) Where paragraph (12) of EASA AD 2020-0197 requires reporting results to the manufacturer “as required by paragraphs (12.1) and (12.2) of this [EASA] AD”, for this AD, only report the inspection and check results specified in paragraph (12.1) of

EASA AD 2020-0197. Submit the report at the applicable time specified in paragraph (h)(10)(i) or (ii) of this AD.

(i) If the inspection or check was done on or after the effective date of this AD:  
Submit the report within 2 days after the inspection or check.

(ii) If the inspection or check was done before the effective date of this AD:  
Submit the report within 2 days after the effective date of this AD.

(11) Where paragraph (13) of EASA AD 2020-0197, and the service information specified in EASA AD 2020-0197, specify returning parts and grease containers to the manufacturer, this AD does not include those requirements.

(12) Where EASA AD 2020-0197 requires compliance from March 20, 2020 (the effective date of EASA AD 2020-0048, dated March 6, 2020), this AD requires using the effective date of this AD.

(13) Where EASA AD 2020-0197 requires compliance from its effective date, this AD requires using the effective date of this AD.

(14) This AD does not allow credit for the actions specified in EASA AD 2020-0197 if those actions were done using the service information specified in paragraphs (h)(14)(i) through (ix) of this AD:

(i) Leonardo S.p.A. Emergency Alert Service Bulletin (EASB) 169-148, dated May 29, 2019;

(ii) Leonardo S.p.A. EASB 169-148, Revision A, dated September 5, 2019;

(iii) Leonardo S.p.A. EASB 169-148, Revision B, dated February 4, 2020;

(iv) Leonardo S.p.A. EASB 169-148, Revision C, dated April 6, 2020;

(v) Leonardo S.p.A. EASB 189-237, dated May 29, 2019;

(vi) Leonardo S.p.A. EASB 189-237, Revision A, dated September 5, 2019;

(vii) Leonardo S.p.A. EASB 189-237, Revision B, dated February 4, 2020;

(viii) Leonardo S.p.A. EASB 189-237, Revision B, dated February 4, 2020, with Errata Corrige;

(ix) Leonardo S.p.A. EASB 189-237, Revision C, dated April 6, 2020.

(15) This AD does not require the “Remarks” section of EASA AD 2020-0197.

**(i) Alternative Methods of Compliance (AMOCs)**

(1) The Manager, International Validation Branch, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the manager of the International Validation Branch, send it to the attention of the person identified in paragraph (j) of this AD. Information may be emailed to: 9-AVS-AIR-730-AMOC@faa.gov.

(2) Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office.

**(j) Related Information**

For more information about this AD, contact Andrea Jimenez, Aerospace Engineer, COS Program Management Section, Operational Safety Branch, Compliance & Airworthiness Division, FAA, 1600 Stewart Ave., Suite 410, Westbury, NY 11590; telephone (516) 228-7330; email andrea.jimenez@faa.gov.

**(k) Material Incorporated by Reference**

(1) The Director of the Federal Register approved the incorporation by reference (IBR) of the service information listed in this paragraph under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) You must use this service information as applicable to do the actions required by this AD, unless this AD specifies otherwise.

(i) European Union Aviation Safety Agency (EASA) AD 2020-0197, dated September 10, 2020.

(ii) [Reserved]

(3) For EASA AD 2020-0197, contact the EASA, Konrad-Adenauer-Ufer 3, 50668 Cologne, Germany; telephone +49 221 8999 000; email [ADs@easa.europa.eu](mailto:ADs@easa.europa.eu); Internet [www.easa.europa.eu](http://www.easa.europa.eu). You may find this EASA AD on the EASA website at <https://ad.easa.europa.eu>.

(4) You may view this service information at the FAA, Office of the Regional Counsel, Southwest Region, 10101 Hillwood Pkwy., Room 6N-321, Fort Worth, TX 76177. For information on the availability of this material at the FAA, call 817-222-5110. This material may be found in the AD docket on the Internet at <https://www.regulations.gov> by searching for and locating Docket No. FAA-2021-0612.

(5) You may view this material that is incorporated by reference at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, email [fr.inspection@nara.gov](mailto:fr.inspection@nara.gov), or go to: <https://www.archives.gov/federal-register/cfr/ibr-locations.html>.

Issued on September 23, 2021.

Gaetano A. Sciortino, Deputy Director for Strategic Initiatives,  
Compliance & Airworthiness Division,  
Aircraft Certification Service.

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